Abstract

An indirect calorimeter for measuring the metabolic activity of a subject includes a respiratory connector operative to be supported in contact with the subject so as to pass inhaled and exhaled gases therethrough as the subject breathes, and a flow tube forming a flow pathway for passing inhaled and exhaled gases therethrough, wherein one end of the flow tube is operatively connected to the respiratory connector and the other end of the flow tube is open, and a wall of the flow tube includes an opening. The indirect calorimeter also includes a flow meter adapted to generate a signal as a function of the instantaneous volume of inhaled and exhaled gases in the flow pathway that is in fluid communication with the flow pathway via the opening in the flow tube, and an oxygen sensor operative to generate a signal as a function of the instantaneous fraction of oxygen in the inhaled and exhaled gases in the flow pathway that is in fluid communication with the flow pathway via the opening in the flow tube. The indirect calorimeter further includes a processor for receiving the signals from the flow sensor and the oxygen sensor and using the signals to determine the oxygen consumption of the subject over a period of time.